

PATENT

Attorney Docket No: BRI/016

Amendments to the claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A pyrotechnic circuit breaker for use in an electrical circuit comprising:
 - a) an electrically conductive portion including means for secure incorporation of the portion into the electrical circuit;
 - b) a pyrotechnic igniter including an output end, said igniter secured so that said output end is oriented toward said electrically conductive portion;
 - c) a passage between said output end of said pyrotechnic igniter and said electrically conductive portion;
 - d) a rupture area adjacent said electrically conductive portion and on the opposite side of said electrically conductive portion from said pyrotechnic igniter output end;
 - e) a housing formed of polymer; and,
 - f) a projectile formed of polymer as an integral part of ~~molded into~~ said housing, between said pyrotechnic igniter and said electrically conductive portion;

PATENT

Attorney Docket No: BRI/016

wherein said electrically conductive portion is formed to be readily cut by said projectile.

2. (currently amended) The circuit breaker of claim 1, ~~further comprising a housing,~~ wherein said rupture area is defined in said housing.

3. (canceled)

4. (original) The circuit breaker of claim 1, wherein said electrically conductive portion is a current load-based fuse.

5. (canceled)

6. (previously presented) The circuit breaker of claim 4, wherein said fuse is a bolt-on fuse strip.

7-14. (canceled)

15. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion includes an enlarged impact area that is enlarged in a plane generally perpendicular to the output of said pyrotechnic igniter.

16. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion includes an area that is flattened in a plane generally perpendicular to the output of said pyrotechnic igniter.

PATENT

Attorney Docket No: BRI/016

17. (original) The circuit breaker of claim 16, wherein said electrically conductive portion is a current load-based fuse.

18. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion has a periphery, and said rupture area has a perimeter selected so as to minimize the clearance between said rupture area and said electrically conductive portion.

19. (original) The circuit breaker of claim 16, wherein said electrically conductive portion has a periphery, and said rupture area has a perimeter selected so as to minimize the clearance between said rupture area and said electrically conductive portion.

20. (currently amended) A pyrotechnic circuit breaker for use in an electrical circuit comprising:

a) ~~a current load based fuse~~ an electrically conductive portion including means for secure incorporation of the portion into the electrical circuit, said electrically conductive portion having a first end and a second end, said means for secure incorporation including a first portion at said first end and a second portion at said second end, said fuse electrically conductive portion

PATENT

Attorney Docket No: BRI/016

being an integral single piece ~~and having~~ that has a uniform thickness throughout the distance between said first portion and said second portion of said means for secure incorporation;

b) a pyrotechnic igniter including electrical leads and an output end, said igniter secured so that said output end is oriented toward said ~~fuse~~ electrically conductive portion;

c) a passage between said output end of said pyrotechnic igniter and said ~~fuse~~ electrically conductive portion;
and,

d) a rupture area adjacent said ~~fuse~~ electrically conductive portion and on the opposite side of said ~~fuse~~ electrically conductive portion from said pyrotechnic igniter output end.

21. (currently amended) A pyrotechnic circuit breaker for use in an electrical circuit comprising:

a) an electrically conductive portion including means for secure incorporation of the portion into the electrical circuit, wherein said electrically conductive portion has an impact area ~~and a periphery and is formed to receive a direct ablation force;~~

PATENT

Attorney Docket No: BRI/016

b) a pyrotechnic igniter including electrical leads and an output end, said igniter secured so that said output end is oriented toward said electrically conductive portion;

c) a passage between said output end of said pyrotechnic igniter and said electrically conductive portion; and,

d) a rupture area having a perimeter adjacent said electrically conductive portion and on the opposite side of said electrically conductive portion from said pyrotechnic igniter output end; and,

e) means for breaking said electrically conductive portion using the output of said pyrotechnic igniter

~~wherein said impact area is flattened and/or enlarged in a plane generally perpendicular to the output of said pyrotechnic igniter and said perimeter is selected to leave a minimal clearance between said rupture area and said periphery.~~

22. (previously presented) The circuit breaker of claim 21, wherein said electrically conductive portion is a current load-based fuse.

23. (previously presented) The circuit breaker of claim 22, wherein said fuse is a bolt-on fuse strip.

PATENT

Attorney Docket No: BRI/016

24. (previously presented) The circuit breaker of claim 21, wherein said electrically conductive portion has a narrowed region between said passage and said rupture area.

25. (currently amended) The circuit breaker of claim 20, wherein said ~~fuse~~ electrically conductive portion is a bolt-on fuse strip that is current load-based.

26. (currently amended) The circuit breaker of claim 20, wherein said ~~fuse~~ electrically conductive portion has a narrowed region between said passage and said rupture area.

27. (new) The circuit breaker of claim 20, wherein said circuit breaker does not include a projectile.

28. (new) The circuit breaker of claim 21, wherein said means for breaking does not include a projectile, and said means for breaking breaks said electrically conductive portion through the direct application of said pyrotechnic igniter's output on said electrically conductive portion.

29. (new) The circuit breaker of claim 28, wherein said impact area is flattened and/or enlarged in a plane generally perpendicular to the output of said pyrotechnic igniter and said perimeter is selected so as to minimize

PATENT

Attorney Docket No: BRI/016

the clearance between said rupture area and said electrically conductive portion.

30. (new) The circuit breaker of claim 21, wherein said means for breaking breaks said electrically conductive portion by using the output of said pyrotechnic igniter to propel a projectile into said electrically conductive portion.

31. (new) The circuit breaker of claim 21, wherein said electrically conductive portion is a fuse, said fuse having a first and second end, said means for secure incorporation including a portion at said first end of said fuse and a second portion at said second end of said fuse, said fuse being an integral single piece that has a uniform thickness throughout the distance between said first and second portions of said means for secure incorporation.

32. (new) The circuit breaker of claim 1, wherein said electrically conductive portion is a fuse, said fuse having a first and second end, said means for secure incorporation including a portion at said first end of said fuse and a second portion at said second end of said fuse, said fuse being an integral single piece that has a uniform thickness throughout the distance between said first and second portions of said means for secure incorporation.